

REMARKS

Restriction Requirement

Applicants are required under 35 U.S.C. § 121 and 372 to select a single invention from the following groups of Claims:

- Group 1: Claims 1-21, 30 and 31, drawn to a method of making an emulsion of cross-linked, immobilized enzyme particles, in which a surfactant is added to one or both phases of the emulsion to increase enzyme activity.
- Group 2: Claims 1-20, 22, 30 and 31, drawn to a method of making an emulsion of crosslinked, immobilized enzyme particles, in which a precipitator is added to one or both phases of the emulsion to precipitate the emulsion onto the emulsion interfaces.
- Group 3: Claims 1-20, 23, 30 and 31, drawn to a method of making an emulsion of crosslinked, immobilized enzyme particles, in which an additive is added to one or both phases of the emulsion to modify one or more of the following properties: pH; ionic strength; viscosity; magnetic properties; agglomeration tendency; and/or zeta potential of the emulsion and/or the enzyme particles.
- Group 4: Claims 24-28, drawn to a particle comprising cross-linked, immobilized enzymes.
- Group 5: Claim 29, drawn to a method of carrying out an enzymatic reaction, by catalyzing it with particle comprising cross-linked, immobilized enzymes.

Response to Restriction Requirement

Applicants elect Group 1, encompassing Claims 1-21, 30 and 31, drawn to a method of making an emulsion of cross-linked, immobilized enzyme particles, in which a surfactant is added to one or both phases of the emulsion to increase enzyme activity.

Election of Species Requirement

In connection with election of one of Groups 1-3, Applicants were also required to elect:

- a) whether the particles are porous (Claim 2) or non-porous (Claim 3).

Applicants elect porous particles;

- b) whether the emulsion is an oil-in water emulsion or a water-in oil emulsion (Claim 8).

Applicants elect a water-in-oil emulsion;

- c) one of the hydrophobic phases listed in Claim 16 (i.e., an oil, hydrocarbon, ether or ester.)

Applicants elect an oil; and

- d) one of the properties listed in Claim 23 that is modified by the additive (i.e., pH; ionic strength; viscosity; magnetic properties; agglomeration tendency; and/or zeta potential).

Applicants elect pH.

Upon allowance of a generic claim, Applicants will be entitled to consideration of claims to additional species, which depend from or otherwise require all the limitations of an allowable generic claim as provided by 37 C.F.R. § 1.141.

Traversal of Requirement

Notwithstanding the foregoing elections, Applicants traverse the Restriction Requirement, insofar as it requires restriction between Groups 1-3, because the inventions in these groups do relate to a single general inventive concept as envisaged by PCT Rule 13.1 and Rule 13.2.

The Patent Office states that the claims of Groups 1-3 do not relate to a single general inventive concept under Rule 13.1 because they do not share the common special technical feature of particles of a cross-linked, immobilized enzyme, because Clark Jr. (U.S. Patent No. 6,343,225) discloses an oil-in-water emulsion containing particles of an immobilized enzyme that is cross-linked with a chemical agent. Thus, according to the Patent Office, the technical feature of particles of a cross-linked, immobilized enzyme does not define the invention over the prior art.

However, the Examiner has not correctly characterized U.S. Patent No. 6,343,225, which discloses the formation of a continuous gel or foam by chemically cross-linking proteins into a gel, rather than the formation of individual enzyme particles. In contrast to U.S. Patent No. 6,343,225, the enzyme particles produced by the presently claimed methods are distinct entities, which are not necessarily in association or cross-linked to a support or matrix, such as in a gel or foam. Referring to the Specification as filed at page 2, lines 24-29, in an emulsion as defined in the first step of Claim 1, the droplets of the immiscible first liquid phase are normally spherical. Thus, the structures of the enzyme particles that are formed by cross-linking enzyme molecules in

the second step of Claim 1 will normally be of hollow spherical form, with the insides or interiors of the spherical structures being either empty or filled. Thus, the enzyme particles produced by the presently claimed methods comprises a spherical wall of cross-linked immobilized enzyme molecules, and a hollow center, core or interior, which can either be empty or contain a liquid. The third step of Claim 1 relates to the recovery of individual particles. Such enzyme particles are novel over U.S. Patent No. 6,343,225.

Since Restriction Groups 1-3 share the novel special technical feature that the methods produce distinct entities of enzyme particles, the Applicants respectfully request that the restriction requirement, as it pertains to Restriction Groups 1-3, be withdrawn.

No Disclaimers or Disavowals

Although the present communication may include alterations to the application or claims, or characterizations of claim scope or referenced art, Applicant is not conceding in this application that previously pending claims are not patentable over the cited references. Rather, any alterations or characterizations are being made to facilitate expeditious prosecution of this application. Applicant reserves the right to pursue at a later date any previously pending or other broader or narrower claims that capture any subject matter supported by the present disclosure, including subject matter found to be specifically disclaimed herein or by any prior prosecution. Accordingly, reviewers of this or any parent, child or related prosecution history shall not reasonably infer that Applicant has made any disclaimers or disavowals of any subject matter supported by the present application.

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Please charge any additional fees, including any fees for additional extension of time, or credit overpayment to Deposit Account No. 11-1410.

Respectfully submitted,

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